

# DUAL CAMERA SURVEILLANCE AND CONTROL SYSTEM

## CLAIMS

I Claim:

1. A dual camera surveillance and control system comprising:
  - a) a color camera for observation under bright daytime conditions;
  - b) a monochrome camera for observation under infrared illumination for dark night-time conditions;
  - c) an infrared illuminator;
  - d) a control module for selection of color or monochrome camera operation and of infrared illumination, depending on ambient light conditions.
2. The dual camera surveillance and control system of Claim 1, in which the color camera has a lens optimized for color with infra-red filtering.
3. The dual camera surveillance and control system of Claim 1, in which the monochrome camera

has a lens optimized for monochrome viewing.

4. The dual camera surveillance and control system of Claim 1, in which the monochrome camera is supercharged for infrared sensitivity.

5. The dual camera surveillance and control system of Claim 1, in which the infra-red illuminator gives illumination in the range of from 805 to 995 nanometers of electromagnetic radiation.

6. The dual camera surveillance and control system of Claim 1, in which the color camera and the monochrome camera each has an independent lens having a separate variable focal control via the control module, providing a switch of mode from daylight to infrared night-light operation without a focal shift.

7. The dual camera surveillance and control system of Claim 1, comprising an auto iris control board that independently controls an iris in each independent lens.

8. The dual camera surveillance and control system of claim 1, in which a video output signal is switched from mono to color depending on the ambient light levels.

9. The dual camera surveillance and control system of Claim 2, in which

a) the monochrome camera has a lens optimized for monochrome viewing;

b) the monochrome camera is supercharged for infrared sensitivity;

c) the infra-red illuminator gives illumination in the range of from 805 to 995 nanometers of electromagnetic radiation;

d) the color camera and the monochrome camera each have an independent lens having a separate variable focal control via the control module, providing a switch of mode from day to night operation without a focal shift.

e) an auto iris control board that independently controls an iris in each independent lens.

f) a video output signal is switched from mono to color depending on the ambient light levels.

10. The dual camera surveillance and control system of Claim 1, comprising:

a) a power system having a battery, an energy management module, and an ambient energy charger for the battery;

b) a low power detection module;

c) a wireless transmitter for transmission of video to a base.

11. The dual camera surveillance and control system of Claim 10, further comprising a wireless receiver for receiving instructions for the system from the base.
12. The dual camera surveillance and control system of Claim 10, in which the energy management module comprises a day/night sensor and a power select switch and in which the ambient energy charger is a solar panel that converts solar energy to electrical current.
13. The dual camera surveillance and control system of Claim 10, further comprising a communications board to intelligently capture desired relevant video data at a remote location for transmission to another location.
14. The dual camera surveillance and control system of Claim 10, further comprising an internet protocol module by which users can control the surveillance camera at a remote location over the internet.
15. The dual camera surveillance and control system of Claim 10, further comprising a satellite based video data transfer module.
16. The dual camera surveillance and control system of Claim 10, further comprising a housing for the components that is weather-tight.
17. The dual camera surveillance and control system of Claim 10, in which the energy

management module comprises a day/night sensor and a power select switch and in which the ambient energy charger is a solar panel that converts solar energy to electrical current, and further comprising:

- a) a communications board to intelligently capture desired relevant video data at a remote location for transmission to another location;
- b) an internet protocol module by which users can control the surveillance camera at a remote location;
- c) a satellite based video data transfer module;
- d) a housing for the components that is weather-tight.

18. The dual camera surveillance and control system of Claim 9, comprising:

- a) a power system having a battery, an energy management module, and an ambient energy charger for the battery, in which the energy management module comprises a day/night sensor, a low power detection module and a power select switch, and in which the ambient energy charger is a solar panel that converts solar energy to electrical current;
- b) a wireless transceiver for transmission of video to a base and for receiving instructions for the

system from the base;

c) a communications board to intelligently capture desired relevant video data at a remote location for transmission to another location;

d) an internet protocol module by which users can control the surveillance camera at a remote location over the internet;

e) a satellite based video data transfer module;

f) a housing for the components that is weather-tight.

19. The dual camera surveillance and control system of Claim 10, further comprising a housing for the components that is a weather-tight, substantially spherical dome having flat windows, the color camera and the mono camera mounted on a central axis within the sphere to allow pan and tilt rotation in full 360 degree rotation on two axes.